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THE NATIVE PEOPLES OF NEW GUINEA

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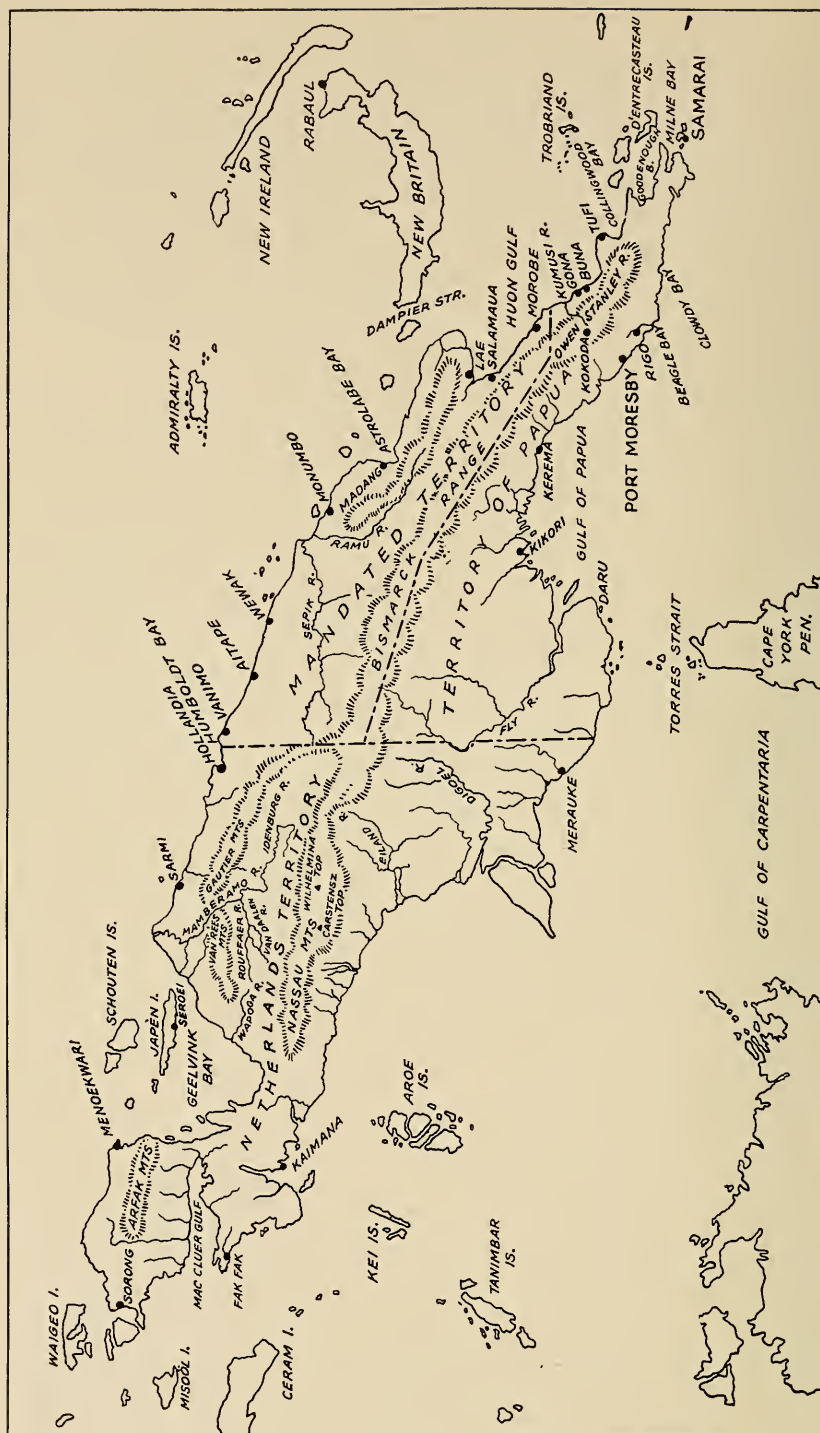


FIG. 1.—Map of New Guinea.

THE NATIVE PEOPLES OF NEW GUINEA

BY M. W. STIRLING

Chief, Bureau of American Ethnology

(WITH 28 PLATES) ¹

TOPOGRAPHY

Just north of Australia the great island of New Guinea sprawls like a gigantic turtle, with its head facing to the west. Lying barely south of the Equator, it is separated from Cape York, Australia, by the narrow, island-dotted Torres Strait. Fifteen hundred miles in length and almost five hundred miles across, stretched over the United States it would reach from New York to Denver. It has an area larger than Texas and Louisiana combined and is almost continental in its physical aspects. From the Arfak Mountains at the western "head" to the Stirling Mountains forming the eastern "tail," the island is traversed for its entire length by a great central range, which bisects it longitudinally and affords a most formidable barrier between the northern and southern halves. This mighty mountain chain has received numerous names in various sections of the island, but reaches its culmination in the Nassau Mountains of Netherlands New Guinea. The highest section of the range is the Carstensz Top, which reaches an altitude of 16,000 feet. The entire ridge between Mount Idenburg and the Carstensz Top is capped with large glaciers which present great vertical faces of clear ice where they reach the edge of the immense precipices that border the mountain on both its northern and southern sides. These breath-taking cliffs, extending some 80 miles with a maximum vertical drop of 10,000 feet, are undoubtedly the highest precipices in the world. This striking geologic feature was seen from the south base by the Wollaston-Rawling expedition in 1911 and from the north base by the Netherlands-American expedition of the writer in 1926. It is probable that from the west end of the Nassau Range to the British border, there is no pass under 13,000 feet.

Continuing eastward into British New Guinea are the Victor Emmanuel and Sir Arthur Gordon Ranges, while still farther on is the lofty Bismark Range which reaches elevations over 14,000 feet. Eastward of this stretch the Owen Stanley Mountains whose highest point is Mount Victoria, more than 13,000 feet high, and finally the Stirling Range, which is the eastern terminus of the system.

¹ All the plates show natives of Netherlands New Guinea. The same types occur, however, throughout the island.

A broken chain of lesser mountains extends along the north coast of the island. These begin with the Gautier and Van Rees Mountains in Netherlands New Guinea, continuing with the Toricelli and Finisterre Ranges in Mandated Territory. The southern hills lying between the Digoel and Fly Rivers structurally are an extension of Australian formations.

The western end of Netherlands New Guinea consists of a peninsula which, from its shape, is called the Bird's Head. The neck of the peninsula lies due south of Geelvink Bay, while the "mouth" of the Bird's Head is MacCluer Gulf. The regions bordering on MacCluer Gulf are flat, jungle-covered, and drained by relatively deep sluggish streams, many of which are navigable to small steamers. The eastern end of MacCluer Gulf is separated from Geelvink Bay by a narrow range of low hills only 600 to 800 feet high.

The northern half of the Bird's Head is extremely mountainous, the Arfak Mountains rising to an elevation of 10,000 feet. The northern coast from Sorong to Menoekwari is precipitous and has no navigable streams. Menoekwari has a well-sheltered, deep harbor with a sand beach which shelves off rather steeply into deep water. There are no navigable streams on the west side of Geelvink Bay. The east side of Geelvink Bay is low and flat, and the streams are consequently navigable to launches or canoes. Since they are all short, steamers cannot enter them. The largest stream on the north coast, west of the Mamberamo, is the Wapoga, which can be ascended by a large launch for a considerable distance. The Mamberamo, which enters the ocean at Cape D'Urville, is the principal river of Netherlands New Guinea. Steamers of 12-foot draft can ascend almost 100 miles until they reach the gorge of the Van Rees Mountains. For 70 miles above this point the river is deep and swift, the way being barred by whirlpools and rapids.

Beyond the Van Rees and Gautier Mountains, which separate the interior from the coastal plain, lies a great central lake plain not much more than 100 feet above sea level. Much of this area is swampy and subject to inundation. The Van Rees and Gautier Mountains are low and rugged, rising to elevations of not much over 5,000 feet.

The central lake plain is drained by two large, broad rivers which join to form the Mamberamo. The one draining the east half of the lake plain is the Idenburg, that draining the west end, the Van der Willigen. The latter has two large tributaries, the Rouffaer and the Van Daalen. These rivers are navigable by launches for a large part of their courses.

South of the central range the mountains descend abruptly to the southern coastal plain, which is of much greater extent than that on the north coast.

Beginning at the neck of the Bird's Head the south coastal plain gradually grows wider until at the British boundary it is more than half the width of the island. The rivers on the south coast are for the most part navigable, their length and size increasing as one passes from west to east. The two largest, navigable for long distances to ships of 12-foot draft, are the Eiland and the Digoel.

Frederik Hendrik Island, a large island south of the mouth of the Digoel, is low and flat, being in reality an extension of the coastal plain from which it is separated by the riverlike Princess Marianne Straits.

The Fly River draining the great southern coastal plain of British New Guinea, with its large tributary, the Strickland, is the largest river system in New Guinea. The Fly is navigable to seagoing steamers and to small boats for more than 600 miles.

The principal rivers in Mandated Territory are the Sepik and the Ramu, which drain the northwestern section of the territory. The Sepik is navigable to seagoing vessels for 180 miles.

PORTS

The four principal ports of Netherlands New Guinea are Menoekwari at the northwest extremity of Geelvink Bay, Hollandia on Humboldt Bay on the north coast near the British border, Fak Fak just south of MacCluer Gulf, and Merauke on the south coast near the British border, at the mouth of the Merauke River. Sorong at the extreme western end of the island opposite the island of Salawat is also of some importance. These are the ports which have been developed to some extent by the Dutch and which have facilities, such as piers, storage warehouses, etc. Each formerly had a white magistrate in residence and as a rule a Chinese storekeeper or two. They are all good harbors which can be entered by large ships. Other lesser ports are Kaimana, Wasior on Little Geelvink Bay, and the ports of Sarimi and Demta.

These are by no means the only natural harbors in Netherlands New Guinea, but there are not many good ones along the long stretch of the coastal plain on the north and south coasts. On the other hand, the south coast of the Bird's Head has many good bays.

In British New Guinea the leading port is Port Moresby on the south coast, just east of the Papuan Gulf. Between Moresby and the mouth of the Fly River are the ports of Kerema and Kikori, while just south of the mouth of the Fly is Daru.

On the north coast in Mandated Territory, Aitape lies about 100 miles east of the Dutch border. Madang is on the west side of Astrolabe Bay. Lae is at the head of Huon Gulf, while Salamaua lies on the south side of

the gulf. Morobe is about 70 miles east of Salamaua near the mouth of the Mambare River. On the coast north of the Owen Stanley Mountains in the territory of Papua are Gona and Buna, Baniara is on Goodenough Bay, and Samarai is on an island just off Milne Bay at the eastern tip of the island.

DISCOVERY AND EXPLORATION

At the beginning of the sixteenth century, the islands of the East Indies were divided between Spain and Portugal by a Papal Bull. The dividing line was very vague, as a result of which a strong rivalry arose between the two European countries. One indirect result of this was an intensification of exploration voyages seeking new lands and new and shorter routes to the Spice Islands, the richest prize of this bitter contest.

The discovery of New Guinea came about as a result of this activity. The Portuguese reached the East Indies by the long route around Africa, while the Spanish ships came across the Pacific from Mexico and Peru. It is probable that the first European to sight New Guinea was the Portuguese Antonio d'Abreu in 1511. In 1527 Jorge de Meneses landed in New Guinea and spent some time in the island of Waigeo. Papua in Malay means "woolly hair"; therefore the people of the Moluccas at this time called the natives Papuans.

In 1528 Alvaro de Saavedra, with a cargo of spices from the Moluccas, reached Geelvink Bay on his way to Mexico. From here he sailed north, discovering the Carolines and Mariana Islands, but was forced to return to the Moluccas. The next year he again sailed eastward, skirting the north coast of New Guinea. Having found a small amount of gold on the north coast, he named the island *Isla del Oro*, or Island of Gold. Probably tempted by these reports in 1536, Cortez dispatched an expedition from Mexico to the East Indies under the command of Grijalva. In 1537 they sailed along the north coast of New Guinea, where Grijalva was murdered. The ship was wrecked on the New Guinea coast, but the survivors were rescued by the Portuguese.

Ynigo Ortiz de Retes, a Spaniard, sailed from Ternate in 1546 on his way to Mexico. He landed at several places along the north coast and thinking himself the discoverer, hoisted the Spanish flag, taking possession of the land in the name of the Spanish king. Since the black-skinned natives looked to him like the Negroes of the African Guinea coast, he named the island *Nueva Guinea*. Mercator's map of 1569 carries this name for the first time in print.

The final Spanish expedition of importance to the history of New Guinea was that of Luis Vaz de Torres. He sailed with two ships from

Peru and reached southeastern New Guinea in 1606. He skirted the entire length of the south coast, taking possession for the Spanish Crown. He passed through the strait that now bears his name and was the first to demonstrate that New Guinea is an island. The account of his voyage, however, was not generally known until early in the nineteenth century.

The power of Portugal having declined rapidly, the principal explorations of the seventeenth century in the region were those of the Dutch, when the East India Company declared a trade monopoly in the Spice Islands.

Willem Jansz in the ship *Duyfken* reached the Kei and Aroe Islands as well as Cape York, Australia, in 1605. After nine of the ship's crew were killed and eaten on the mainland of New Guinea, the remainder returned to Banda.

In 1616 Jacques Le Maire and William Schouten made a famous voyage of discovery which led them to New Ireland, the Admiralty and Vulcan Islands, and finally New Guinea, where they reached the mouth of the Sepik River and rediscovered the Schouten Islands. Many of the crew were killed by the natives.

In 1623 Jan Carstensz sailed with two ships from Amboina to the Kei and Aroe Islands. From here they skirted the south coast of New Guinea, where a landing was made by 15 men from one of the ships. They were immediately attacked by natives, who killed 10 of them including the captain of the second ship of the expedition.

Continuing along the south coast, this expedition saw for the first time the snow-covered Nassau Range, a rare sight for this cloudy coast. For more than two centuries this report was generally disbelieved, it being held by Europeans that it was impossible for snow to exist so nearly under the Equator. It is interesting to note that in more recent years reports have frequently been made of extravagantly high mountains in New Guinea, the favorite being of the legendary Mount Hercules reputedly higher than Everest. It is now definitely established that the 16,000-foot Carstensz top is the highest point in New Guinea.

Thomas Pool in 1636 explored the southwest coast of New Guinea, where he was killed by the natives, but the expedition discovered several large rivers.

In 1642 Tasman skirted the north coast of the island and in 1644 was sent to determine if there was a passage between New Guinea and the "South Land" (Australia). He followed the southwest coast but did not pass through the strait which, unknown to him, had already been discovered by Torres.

The voyages of the English during the seventeenth century disturbed the Dutch considerably, although the latter succeeded in maintaining their monopoly of the rich spice trade.

Capt. William Dampier, sailing from Brazil around the Cape of Good Hope, inaugurated the new century by sighting northwestern New Guinea on January 1, 1700.

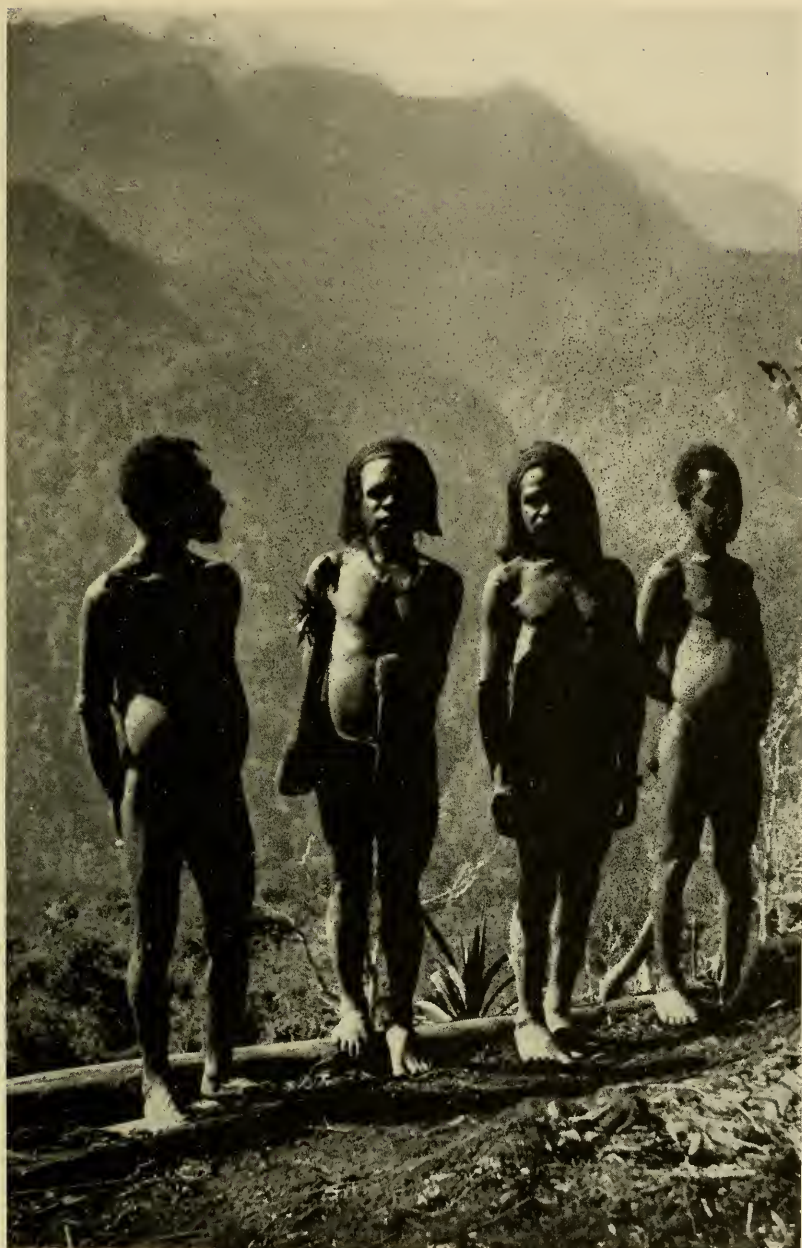
In the year 1714 New Guinea was nominally ceded to the Dutch by the Sultan of Tidore, the cession not being officially recognized by the English until 1824. In 1767 Philip Carteret made his voyage of discovery, followed the next year by Bougainville. In 1770 Capt. James Cook visited Dutch New Guinea on the south coast, but the attitude of the natives did not encourage him to remain.

From this time on, voyages of exploration involving the coast of New Guinea are too numerous to list in a brief account. Some of the more important are those of MacCluer and Edwards (1791), Bligh and Portlock (1792), D'Entrecasteaux (1793), Kolff (1826), and d'Urville (1827).

During all this time New Guinea remained virtually unknown except for its coast line, the effective hostility of the natives discouraging any attempts at settlement or penetration of the interior.

From time to time flags were hoisted and possession taken of the island in the names of various countries, sovereigns, and companies. In 1793 the British East India Company, eager to extend its trade, raised the flag of the company on the northwest coast, and the port was occupied for a while by British troops. The Dutch, however, soon regained their title to the western part of the island, but it was not until the year 1884 that the British proclaimed a protectorate over the southern part of the eastern half of the island, while Germany did the same for the northern part of the eastern half. The boundary separating these protectorates from the Dutch half was fixed at the 141st meridian, except for a short section following the course of the Fly River.

In 1845 Captain Blackwood discovered the Fly River. After the middle of the nineteenth century various scientists and missionaries visited the coastal regions and remained for fairly lengthy periods. In 1876 the Italian naturalist d'Albertis made the first real penetration of the interior when he ascended the Fly River for over 500 miles. In 1875 Admiral Moresby landed on the south coast, and in 1885 Captain Everill ascended the Strickland River and Dr. H. O. Forbes explored the Owen Stanley Range. Among the early scientists to visit New Guinea the most prominent names are those of A. R. Wallace (1858), Odoardo Beccari (1871-76), Maria d'Albertis (1871-78), and C. B. H. Rosenberg (1869-70).

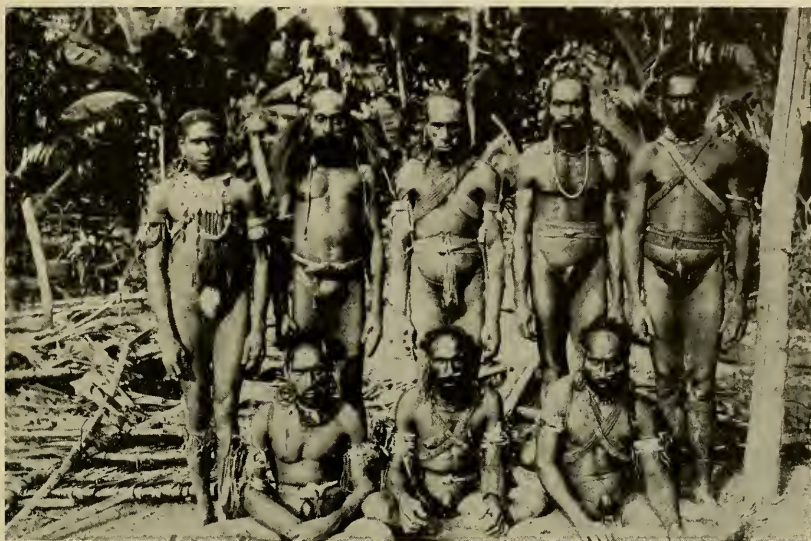


NOGULLO NEGRITOS OF THE NASSAU MOUNTAINS,
CENTRAL NETHERLANDS NEW GUINEA



PAPUANS

a and *b*, men from the vicinity of Merauke, Netherlands New Guinea; *c* and *d*, types from the Rouffaer River, lake plain, central Netherlands New Guinea.



1. Papuan men, showing typical beards and high foreheads.



2. Women and children, illustrating typical ornaments, costume, and body scarification.

PAPUANS FROM SOUTHEAST NETHERLANDS NEW GUINEA



PAPUANS FROM SOUTHEAST NETHERLANDS NEW GUINEA

a, men wearing ornaments consisting mainly of seeds and teeth; *b*, youths, illustrating the typical nose plug; *c*, man and wife, showing use of bow guard; *d*, man and woman, the man wearing typical nose ornaments and boar's tusk armlets.



MEN AND WOMEN FROM THE KOEMBE RIVER,
SOUTHEAST NETHERLANDS NEW GUINEA

The woman (b) shows body scarification.



1. Papuan house.



2. Preparation for ceremonial feast.

SOUTHEAST NETHERLANDS NEW GUINEA



1. MEN OF MIRMIRSTAM. NETHERLANDS NEW GUINEA



2. PAPUAN MEN WITH HEAD TROPHIES, SOUTHEAST
NETHERLANDS NEW GUINEA



NETHERLANDS NEW GUINEA

a, men of Newerip, southwest coast; *b*, men of Momboen, southeast; *c*, man from the vicinity of Merauke, carrying stone club; *d*, Papuan men from the south coast.

Missionaries of the Utrecht Missionary Society were at Menoekwari, then known as Port Dorey, as early as 1858, and various English missionaries have resided in the southeast since 1871. Of these the most notable were Samuel MacFarlane (1875), James Chalmers (1877-1901), and George Brown (1875-1897). All these men published valuable accounts of the natives and descriptions of the regions in which they worked.

In Netherlands New Guinea, Catholic missions were established at Merauke and at Seroei on the island of Japen.

The interior of Netherlands New Guinea remained almost completely unknown until the present century, when the Dutch Colonial Government began a systematic series of explorations. Netherlands New Guinea, however, still remains the least-known section of the habitable globe, and the great majority of its natives in the interior still live in the stone age.

POLITICAL DIVISIONS

At the beginning of the present war the political divisions of New Guinea were as follows:

British New Guinea.—This territory was placed under a British protectorate in 1884 after the Queensland government had annexed it in 1883. In 1906 it became the Territory of Papua under the Australian governor general, with a functioning lieutenant governor of its own. Administrative headquarters were established at Port Moresby. The area of the territory is approximately 91,000 square miles, and it has an estimated native population of 260,000.

Mandated Territory of New Guinea.—At the beginning of the European war in 1914, the German territory in New Guinea was technically occupied by Australia. In 1919 the League of Nations mandated former German New Guinea to the government of Australia. This included the former German Bismarck Archipelago, the Admiralty Islands, and the Islands of Bougainville and Buka of the Solomons group. Headquarters of the government were established at Rabaul. Under the mandate the government is administered indirectly through native chiefs.

The approximate native population of the New Guinea portion of the Mandated Territory is 187,000, and its area is 69,000 square miles.

Netherlands New Guinea.—The Dutch territory comprises the half of the island lying west of the 141st meridian and the Fly River. The Dutch based their claims on the fact that the Sultan of Tidore considered New Guinea as part of his domain. This was ceded to the Dutch in 1714. In 1824 the cession was formally recognized by the English. In 1911 western and southwestern New Guinea were attached by the Dutch to the residency

of Amboina, and northern New Guinea was placed under the administration at Ternate.

The area of Netherlands New Guinea is about 152,000 square miles, and the native population is estimated at 200,000.

CLIMATE

Although New Guinea lies just below the Equator it is not subject to extremes of temperature at sea level or at moderate altitudes, where the normal range for most of the year is an early morning temperature of 72° and a noon temperature of 92°. In the central mountains the temperatures vary, of course, from tropical to alpine, depending on the altitude.

During the northern summer the southeast trade winds prevail, bringing rain to the southeastern portion of the island, the volume of rain gradually decreasing toward the west. In the southern summer New Guinea lies in the path of the winds that head for the generally prevailing low area over Australia. This precipitates heavy rain along northern New Guinea and the southern part of Dutch Territory. The annual precipitation in places exceeds 100 inches per year. Because of these conditions precipitation generally is somewhat heavier in the western half of the island. The slopes of the mountains are covered with heavy tropical rain forest, and in those parts of the lowlands where deep swamps do not prevail, the surface of the ground is covered with high jungle. In the northern interior of the slightly more arid eastern half there are considerable areas of savannah.

FAUNA

Having been connected with Australia as recently as Pleistocene times, New Guinea has a fauna and a flora that are much more closely related to those of Australia than to those of Asia or the western islands of the East Indian Archipelago.

The indigenous animals are primarily marsupials, such as wallabies, tree kangaroos, and phalangers. The dog and the pig were introduced by man. There are some small mammals such as the echidna, rats, and bats, including the giant fruit bats. Reptiles are rather abundant. Crocodiles abound in the lowland regions, and lizards and turtles are common. There are many varieties of snakes in New Guinea, including at least 10 genera of land snakes and several of sea snakes that are poisonous. The venom of these snakes is of the neurotoxic character of the Indian cobra. They vary in length from 2 to 11 feet. Of the nonvenomous varieties, snakes of the python family reach the largest size.

The bird life of New Guinea is especially rich and spectacular, and notable for numerous varieties of birds of paradise, formerly a considerable source of revenue for their plumes. The largest bird is the flightless cassowary, which is closely related to the emu. Pigeons and parrots exist in almost infinite variety. Of the lesser forms of life, mosquitoes and leeches are the most annoying to man, the former primarily because they carry malaria. Ants, termites, wasps, and other insects in countless numbers are likewise a constant source of irritation, particularly to the uninitiated invader.

Fishes are abundant in the lowland streams and in the coastal waters, but these are evolved from marine forms. All the coastal and fresh-water fishes are edible except those with parrotlike beaks and those that can bloat themselves with air or water and are called puffers or porcupine fishes.

Because of the richness of its flora and fauna and the wide range of its climatic zones, and because so much of the island is still unexplored or but little known, New Guinea offers a most tempting field to the biologist.

PRODUCTS

Considering its great area and rich potentialities the economic development of New Guinea has scarcely begun. Small beginnings were made in British New Guinea and the Mandated Territory, where plantations had been put into production for copra, rubber, sisal, cotton, and cacao, and modest exports were made of all these products. The natives throughout the island in general cultivate bananas of many varieties, sugarcane, sweet potatoes, taro, coconuts, and tobacco. Sago grows wild in most of the swampy areas and is also planted in quantity by the natives in some parts. The only domestic animals are the dog and the pig.

The mineral possibilities of the island are considerable. Copper has been mined for many years in the vicinity of Port Moresby. Gold is found at many places in the eastern half of the island and has been profitably mined in the interior since 1926 through the use of the airplane for transportation. There is coal in northern Netherlands New Guinea but it has not been developed. In former years there was a considerable trade in the plumes of birds of paradise.

NATIVE PEOPLES

The island of New Guinea has a very diversified population and may be said to be fairly densely inhabited, having a native population of approximately 650,000. The number of whites or of other races living on the island are so few as to be almost negligible in proportion.

One can scarcely travel 20 miles in any part of New Guinea without encountering a different language, a fact which frequently makes communication difficult and which no doubt had an important bearing on many misunderstandings between natives and white travelers. In British New Guinea many of the coastal peoples understand pidgin English, while in Dutch New Guinea some of the coast natives know a little trade Malay.

In a broad sense the New Guinea natives can be divided into three groups, the Negritos, the mountain tribes of the interior; the Melanesians of the north and east coast; and the Papuans of the interior lowlands and western coast. The mountain tribes are of small stature, the Melanesians are often tall and muscular, and the Papuans are of medium stature. All the natives are dark-skinned and have woolly hair.

In speaking of the attitude of natives at the present time it is necessary to discriminate to some extent as between those of the British and Dutch halves of the island. In British New Guinea the influence of the white man has made itself felt, particularly during the last 25 years, to such an extent that the white man is no longer a mystery to the natives. The law has been established to a considerable extent in accordance with Australian custom, and many natives have been trained as police. As a result, the aboriginal customs of head hunting and cannibalism have been largely curbed and danger to white travelers reduced almost to the vanishing point. Previous to the beginnings of the present century missionaries of several denominations working under hazardous conditions had brought a considerable portion of the coast of the eastern half of New Guinea under control, although trouble was frequently stirred up by adventurers and free-lance traders who often treated the natives roughly. After 1920 the Australian Government inaugurated a systematic series of explorations into the unknown section of the interior.

The existence of gold in the interior had been known for many years, but the absence of trails in this rough country made it impracticable to work the mines. The improvement of the airplane did much to remove the obstacle of overland travel, and beginning about 1926, something approximating a gold rush began to the interior of the Mandated Territory. Planes were used to transport men and machinery, and the placers began operation on a profitable basis. This naturally stimulated further explorations of all sections of the interior in search of new gold-bearing regions. The final result has been the virtual completion of the map of British New Guinea and the familiarization of the natives with the white man.

Head hunters and cannibals a generation ago, most of the natives of British New Guinea have now become so accustomed to the ways of the

whites that they have been trained as workers and even to assist in administering the white man's law. The interior of Netherlands New Guinea on the other hand has been explored in a much more sketchy fashion. Except for certain sections along the coast and the Bird's Head or western end of the island, no established white settlements have been made. The few which were established are small and contain but a handful of whites. Travel in the interior up to the present has been restricted almost entirely to exploration trips by large, well-organized parties with military escorts, the majority of which have been conducted by the Dutch Colonial Government subsequent to 1903. The hostility of many of the native tribes had caused the Colonial Government to regard New Guinea as "closed territory" as a means of protecting the lives of would-be explorers as well as protecting the natives from travelers unfamiliar with their customs and hence likely to incite fatal incidents.

The interior of New Guinea is today the last real stronghold of the stone age existing in the world. The much abused expression "have never seen a white man" is literally true for many thousands of the interior natives of New Guinea. As late as 1926 when the writer explored the Nassau Mountains by way of the Mamberamo River, it was found that the natives of the Van Rees and Gautier Mountains of the northern coast range had but few objects of metal. When we reached the great interior lake plain, the Papuans of the western half of this area knew nothing whatever of metals or any other product of the white man, nor did the pigmy tribes of the central mountains.

In Netherlands New Guinea it can be said in general that the lowland tribes are treacherous, and in many sections dangerous to small parties. They are nervous and excitable in temperament, particularly the tribes of the central lake plain. As a rule the lowland natives are of little or no use for carrying or work purposes. They have virtually no surplus of food supplies. Although inclined to be hostile, they have no firearms—being armed only with bows and arrows—and consequently would be a negligible factor as far as modern military forces are concerned. The natives do not fight in an organized manner, nor even intelligently. Although small parties of our expedition were frequently attacked, both in the Van Rees Mountains and in the lake plain, and we had 16 men killed, the excitable natives usually betrayed their ambushes by shouting and by firing their arrows too soon. Large parties were never attacked, the natives usually disappearing in the bush on the approach of large numbers. Whenever natives have their women with them, it is safe to assume that they have no hostile intentions.

THE NEGRITOS

Occupying the isolated high central mountains of New Guinea are the Negrito tribes. These little people, whose distribution follows the main central range, extend almost the full length of the island, and traces of them can be seen even as far east as the Solomons. They are undoubtedly of the same basic stock as the pigmy tribes of the upper Congo in Africa, those of the Andaman Islands in the Bay of Bengal, the Malay Peninsula, and the Philippine Islands. All these groups are evidently remnants of an early, widespread migration across southern Asia where they may have been the earliest representatives of modern man. Their characteristic physical features are their small stature, short woolly hair, round heads, and broad noses.

In New Guinea they exist in purest form in west-central Netherlands New Guinea, where their habitat is in the rugged Nassau Mountains. They are insulated from the Papuans of the lake plain by a fairly broad uninhabited belt of rough jungle-covered mountains, and from those of the south coastal plain by the snow ridge and the steep southern flank of the central mountains, although some groups inhabit this rugged area. They are strikingly different in temperament from the voluble and treacherous Papuans who live next to them, being friendly when well treated and calm and quiet in temperament. Mentally they are intelligent and well poised. Willing to work for others, they make satisfactory carriers. They are expert and ingenious in the use of signs and gestures, and communication with them can be carried on in a fairly satisfactory manner by this method. The Nogullo Negritos and their neighbors have an elaborate sign language by means of which they can carry on completely silent conversations among themselves.

In keeping with their relatively peaceful natures, head hunting and cannibalism, so characteristic of other parts of New Guinea, are unknown. Here among such tribes as the Tapiro, the Pesechem, and the Nogullo, normal statures for adult males are as low as 145 centimeters (4 ft. 9 in.) (pl. 1). West of this section in the Arfak Mountains the inhabitants are basically Negrito mixed with Melanesian and Papuan, while eastward of the Nassau Mountains the Negritos are partially mixed with the Papuan stock. Such tribes typically range in average stature from 151 centimeters (4 ft. 11½ in.) to 157 centimeters (5 ft. 2 in.), unusually small but somewhat taller than the true Negritos. Among such typical mixed groups are the Ekaris and Monis of the Arfak Mountains, the Mafulu on the headwaters of the St. Josephs River in British New Guinea, the Kai living in the interior of the Rawlinson Range, and the tribes of the upper Sepik

River. To this group also belong the numerous populations in the vicinity of Mount Hagen in Mandated Territory.

Among all the Negrito groups outside New Guinea there is none which preserves its original language, all having taken over the languages of the dominant groups surrounding them. The interesting possibility exists that among the interior groups of the Nassau Mountains a true Negrito tongue may be yet spoken.

The large Negrito population in Netherlands New Guinea from the Charles Louis Mountains to the British border, although separated into many tribes, many of which war upon one another, is nevertheless very uniform in culture. The tribes in British New Guinea are more in contact with the Papuans, and hence their culture partakes more of a Papuan flavor.

The tribes of the Nassau Mountains may be said to be a peace-loving people when compared with their Papuan neighbors. Strangers are well received by these tribes, and thus far they have been very friendly toward white explorers.

They live in a complete stone-age culture, making use of three specialized stone tools. These in order of importance are the stone ax, stone knife, and stone chisel. The ax consists of an almond-shaped blade or celt of highly polished, fine-grained black or green stone with a fairly sharp cutting edge. This is hafted in a wooden handle which has a bulbous enlargement at one end; in the enlargement a socket is carved, into which the base of the blade is snugly fitted (pl. 24, fig. 1). It is a simpler and much more effective implement than the Papuan compound stone ax. With this implement hardwood trees of considerable size are felled in making their garden clearings (pl. 23, fig. 1). Trees of exceptional size are girdled with the ax, so that they die and the sunlight will penetrate to the ground after the leaves fall. The ax is also used in cutting wood for fencing and for firewood and for splitting the slabs with which they build their houses.

Knives are made of flat, crescent-shaped pieces of slate. These are used in the manufacture of bows and arrows and have a secondary use in pulling out whiskers, as all pigmy men keep the upper lip smooth-shaven, and many the entire face.

Chisels are made of cylindrical pieces of slate or hard greenstone. They are 6 or 8 inches in length and $\frac{1}{2}$ inch in diameter with a cutting edge at one end. They are used primarily for excavating the sockets in ax handles.

The bow and arrow constitutes the only specialized weapon of the Negritos, although the stone ax is a deadly implement at close range. The pigmylike tribes in the eastern Nassau Mountains also use the spear. Bows are made of local hardwood and are fitted with strings made from strips of rattan. Arrows are about 5 feet long. They are made of jointed

reeds fitted with long, pointed foreshafts of hardwood, or concave points of bamboo. The points or foreshafts are lashed to the reed shafts with long strips of yellow or red orchid bark. In hunting, the Negrito relies largely on stalking and likes to shoot his arrows from close range. Game consists of tree kangaroo, phalanger, cassowary, and birds of many kinds.

Costume among the men is more for the purpose of adornment than for protection or concealment. The men all wear penis covers made from gourds. These are held in place by a ring of braided orchid bark attached to a cord around the waist. This cord is further ornamented in the rear by a sort of bustle made from many lengths of braided orchid bark. On the arms are worn armlets and bracelets made of twisted rattan or of woven orchid bark. Around the neck is frequently worn a collar of bark to which small snail shells are attached. Through a hole in the septum of the nose are thrust split boar's tusks or lengths of orchid stems. They are fond of thrusting bright-colored leaves or flowers in their arm bands. When "dressed up," they wear headdress of several varieties (pl. 24, fig. 2). The most common type is circular, made of black cassowary feathers, and looks like an oversized fur muff. Normally the pigmy man wears an empty net bag over his head (pl. 26). When visiting or dressed for any special occasion, men paint their faces with red ochre and black charcoal. Every man wears a small elongated net bag suspended from his neck which contains his kit of personal possessions. The bag is usually ornamented with boar's tusks and a cassowary leg bone. In it the man carries his spare ornaments, ochre and charcoal for face painting, his stone knife and chisel, a roll of smoking tobacco, an acorn pipe, dry pandanus leaf for making cigarettes, betel nut and lime for chewing, and rattan and tinder for firemaking.

Women are less vain of their personal appearance, and their costume is correspondingly simple. The ordinary dress of a woman consists of a cord which passes over the buttocks and under the abdomen, to which is attached fore and aft a short stiff skirt made from pandanus leaf (pl. 28, *a* and *b*). More rarely a woman may wear a somewhat longer skirt made of twisted fiber strings. Around her neck the woman usually wears a charm necklace consisting of a cord to which are attached a number of cocoons and other objects.

Women are seldom seen without a large net carrying bag which is used for a multitude of purposes, but primarily for bringing in produce from the gardens, which are the particular domain of the women. Carrying is done by means of a woven band across the forehead, the bag resting on the back. The lot of women among the Negritos is considerably better than among most Papuan tribes. In the western Nassau Mountains they



1. Women from the Koembe River, wearing fiber hair ornaments.



2. Tree houses, Arfak Peninsula.
NETHERLANDS NEW GUINEA



NETHERLANDS NEW GUINEA

a and *b*, men and women of Piem; *c*, men of southeastern area; *d*, Negritos from Goliath River, south-central area.



1. Melanesian types.



2. Wearing ceremonial fiber skirts.
WOMEN FROM MIRMIRSTAM



1. Dance representing courtship of paradise birds, south coast.



2. Masked dance, north coast.

CEREMONIAL DANCES, NETHERLANDS NEW GUINEA



1. CANOES ON THE EILAND RIVER



2. WOMAN AND CHILDREN NEAR MENOEKWARI, NORTHEAST NEW GUINEA COAST, SHOWING TYPICAL MOP HAIR OF THE REGION



1. DUG-OUT CANOES AT VILLAGE ON THE EILAND RIVER



2. TRAVEL IN THE CENTRAL LAKE PLAIN, NETHERLANDS NEW GUINEA
SHOWING TYPICAL LOWLAND JUNGLE GROWTH



1. View from the Rouffaer River.



2. Papuan dugout on the Rouffaer River.
CENTRAL NETHERLANDS NEW GUINEA



1. Papuans of the Van Daalen River, central area.



2. Native canoe, Koepera Poekwa, southwestern area.

NETHERLANDS NEW GUINEA

are not segregated into separate houses, but are so segregated among the mixed groups farther east in the Swart Valley and Lake Habbema district. The women do the work of caring for the gardens, but the heavy work of clearing is done by the men.

They are expert agriculturists, raising in their clearings bananas, sugarcane, taro, and sweet potatoes. In the western Nassau Mountains, lemons are also grown. Since they have no implements for tilling the soil, a clearing will produce crops for only 2 or 3 years. After this time grasses with heavy roots take possession of the soil, and a new clearing must be made. Wild nuts including chestnuts, and berries such as raspberries, are also utilized for food. The fruit of the pandanus constitutes an important wild food. Hogs are domesticated and constitute an important source of meat. Pigs are believed to be magical animals and are treated with great respect. Their blood is used as a remedy for most diseases and, smeared on the body, is supposed to protect the individual from harm. Pigs are slaughtered with ceremony, the killing being done by shooting through the heart with an arrow (pl. 25, fig. 1).

The men are hunters and with their bows and arrows kill phalanger, wild pig, cassowary, and any other game and birds that might be available. Most of the Nassau Mountain tribes do not eat kangaroo as it is a totemic animal. Very few forms of animal life however are neglected as food; insects and especially grubs and larvae are extensively used. As a result of a predominantly starchy diet, they commonly have protruding abdomens, which mar an otherwise typically symmetrical physique. This defect is particularly noticeable in young children.

Food is prepared for eating by a primitive fireless cooker. A pit is dug in the ground and lined with the leaves of bananas and tree ferns. The food to be cooked—yams, including the vines of the plants, taro root, and any meat that may be on hand—is placed on the leaf lining. Rocks that have been heated in a fire nearby are then placed over the food and the ends of the big leaves are drawn over it, so as to seal in the contents, and held in place by more hot rocks. In about 2 hours the food is thoroughly cooked.

Fire is made by means of the fire thong. The pigmies wear braided about the arm one or more lengths of dry rattan (pl. 24, fig. 2). A small, dry stick is then selected, one end of which is split with the teeth. This split is held open by a small pebble or twig inserted in it. From his net bag the firemaker then takes a pinch of tinder made by scraping the inner bark of a palm. This is placed in the open split. The rattan armband is then uncoiled and looped under the stick so as to contact it at the point where the tinder has been placed. The operator then places one foot firmly on

the stick to hold it in place and draws the rattan back and forth rapidly, holding an end in each hand. Within a few seconds the tinder begins to smoke from the heat engendered by the friction. The stick is then lifted and with his breath the firemaker blows the smoldering tinder into a flame.

Tobacco, known throughout New Guinea, has even worked its way into the remote Nassau Mountains, where the Negritos cultivate it. They smoke it in the form of cigarettes rolled with sections of dry pandanus leaf, or in pipes made from large acorn shells fitted with reed stems.

One of the most characteristic traits of the Negritos is their fondness for trading and bargaining. They are willing and eager to spend hours at this pastime.

Their greatest treasures are cowrie shells that have worked their way inland from the coast. It is interesting to note that these shells are far from being uniform in value. They are appraised individually as carefully as a gem expert would evaluate diamonds. Cowries vary somewhat in size, the average being about three-quarters of an inch in length; they vary in color from porcelain white to a rich yellowish cream. They vary in shape from a smooth oval to a rough diamond shape with pronounced shoulders. The shells to which they are accustomed have all been perforated by the coast Papuans for the purpose of stringing them. Among the shells is a complete gradation of the factors mentioned. The factors most desired are the yellow color, the roughness and diamond shape, large size, and smallness of perforation. A large, rough, yellow shell with a small perforation can be worth 100 smooth white shells, with all grades of value in between. The Negritos love to study them and will lovingly fondle an extra fine shell as a gem lover would an unusually precious stone. Their currency also includes items of small denomination such as phalanger tails and a certain type of large, flat, polished seed.

Villages as a rule are small, the houses being rather widely separated. The houses are small but compactly built of split slabs of wood and roofed with thatch. A false wall is built back of the entrance to prevent cold drafts, some of the villages being at elevations of more than 10,000 feet. In the western Nassau Mountains the houses are rectangular in form, farther east they are circular.

Studies of the ethnology of the Negrito tribes are still very incomplete. They appear to be typically organized into moieties or group dual divisions, each of which is named for a totemic animal. Individuals are born into their particular moiety and such social organization as exists is based on this. Many of the traits of this culture are strongly reminiscent of Australia. A modified form of group marriage exists. All brothers of the natural father are considered as fathers and all sisters of the natural mother are

regarded as mothers. The wives of younger brothers are also regarded as wives of the older brothers. Therefore the sons of brothers and the daughters of sisters are regarded as one's own children.

Sexual restrictions before marriage are nonexistent, and marriage, at least on the part of women, takes place very early. Children are much desired, and parents are very affectionate toward them.

Most religious practices revolve about the belief in and fear of spirits of the dead. Feasts are given to propitiate these spirits, and charms are worn or carried for the purpose of warding them off.

The dead are disposed of by cremation. Mourning ceremonies are observed, and near relatives cut off the joint of a finger as a token of respect and to please the spirit of the departed.

The only musical instrument is the jew's-harp made from bamboo. Singing is indulged in, and they are very fond of social singing in the evenings. Dancing is reserved for religious occasions, and the steps are very simple.

Health conditions are very good. There is no malaria in the high altitudes and no venereal disease. Goiter is rather prevalent and is confined mostly to women. Yaws is common and seems to be the most serious prevalent disease.

On the whole, the Negritos are an industrious, happy, and prosperous group, as primitive prosperity goes. Their stable temperament, industry, and general intelligence make them appear to be the group most likely of any large portion of the native population of New Guinea to survive satisfactorily white contacts.

THE PAPUANS

The term "Papuan" is Malay meaning "woolly hair" and was early applied by the natives of the Moluccas to the inhabitants of western New Guinea. The Papuan racial stock evidently came into New Guinea at an early date following the Negrito migration from the Indonesian area. They spread over most of the island and may be considered the most characteristic racial stock making up its present population. The typical Papuan is dark-skinned, rather short of stature, and long-headed. They are inclined to be hairy and frequently have full beards. There is a tendency for the hair to recede from the forehead at a relatively early age. They seem to be related in part to the natives of Australia. They speak a distinct group of dialects unrelated to the other languages of Oceania excepting those of northern Australia.

At the present time they occupy most of the interior portions of the island and all the western and southern coastal region from Geelvink Bay

around to the Purari Delta and the Papuan Gulf. Groups of Papuans are also found at certain points on the north coast, particularly around Astrolabe Bay, the Huon Gulf, and at the mouth of the Sepik River. Among the typical tribes are the Tugeri, also called Marind-Anim (pl. 3), who occupy much of the region between the Fly and Digoel Rivers on both sides of the British-Dutch border. Between the Fly and the Aramia are the Gogodara. On the gulf of Papua live the Kerewa, the Urama, the Naman, and the Elema. On the north coast of Mandated Territory are the Orokaiva. The Kai of the interior Rawlinson Range are also a Papuan group apparently somewhat mixed with Negrito stock. Papuan tribes such as the Takutamesa live on the Mamberamo River in the Van Rees Mountains, while the Sebiri inhabit the middle portion of the central lake plain. The Wakatimi of the Mimika River are typical of the Papuan tribes of the lowland area of southwestern Netherlands New Guinea.

Cultural influences of Papuan and Melanesian origin are so mixed that it is often difficult to tell which traits are characteristically Papuan. It is probable that originally the only weapons of the Papuans were the spear thrower, the stone-headed club, and the spear, although now the spear thrower has in the main been replaced by the bow and arrow. Pottery was not made by Papuan tribes, although some have taken it over from the Melanesians in the eastern half of the island. Elaborate personal adornment is characteristic of both Papuans and Melanesians. Both the nostrils and the septum of the nose are pierced by the men, and in the perforations are thrust ornaments of bone, wood, and shell. Many tribes also pierce the lobes of the ears, and in the northwest and along the Mamberamo, bamboo tobacco tubes of large size are worn in these perforations. Women do not indulge in this type of decoration, but among the tribes of south-east Netherlands New Guinea the women elaborately scarify the body for purposes of adornment (pl. 5, *b*). In this region, too, the women decorate the hair by attaching long plaits of fiber (pl. 9, fig. 1). The men, too, are fond of decorating the hair. They augment its length with palm fiber or, as in the Van Rees Mountains, wrap it with rattan and do it up in the form of large coils (pl. 21, *c*). Personal adornment varies in detail in different parts of the island, but typical ornaments consist of necklaces, collars, chest straps, quill earrings, and arm and leg bands. These are usually made of some kind of fiber elaborately adorned with ornaments of teeth, shell, feathers, or seeds. On ceremonial occasions body painting is practiced, the favorite colors used being black, red, and white (pl. 8, *d*). Particularly in the eastern half of the island masks and spectacularly elaborate feather headdresses made from birds of paradise and cassowary are worn in ceremonies (pl. 12, fig. 2). Costume, although scant in all parts, varies con-

siderably in different sections of the island. Men in the south and central regions wear penis covers of shells, coconut gourd, or bamboo. On the north coast and the west-central regions they wear breech cloths of bark cloth. Some of the northeastern coastal tribes have taken over from the Melanesians the practice of wearing short tapa-cloth skirts.

Women on the southeastern coast usually wear rather full skirts of grass or string. On the central south coast women typically wear a bunch of grass drawn between the thighs and fastened to a narrow belt worn around the abdomen (pl. 10, *b*). Women of the northeast coast wear tapa skirts, while the women of western Netherlands New Guinea wear breech cloth and apron of bark cloth, similar to the costume of the men (pl. 20, *b*).

The Papuans are horticulturists in a limited sense, raising bananas, taro, sweet potatoes, and sugarcane as their primary crops. Coconuts are important along the coasts. The staple food of the lowland people throughout the island is sago. The sago palm grows wild in most parts of New Guinea and in some districts is planted. It is particularly abundant in wild form in the great central lake plain of Netherlands New Guinea. The tree grows to a height of about 30 feet. It flowers once and then dies. Preparatory to putting forth the flower stalk, quantities of starch are stored in the trunk. At this time the tree is felled and the trunk split in half. The bark consists of a hard shell about an inch in thickness, and the remainder of the trunk is a mass of fibers mixed with a pinkish starch. This portion is adzed out and broken up by means of a special tool like a hammer of stone or hardwood with a concave striking base. The starch is then washed out of the fiber and is ready for use. It is usually carried in the form of cakes or lumps. It can be cooked in many forms, as it is really a variety of flour, or can be taken as a drink by mixing it with water.

The Papuans are hunters of wild game, and fish are an important adjunct of their food supply. Fishing is done by means of spears, nets, and fish traps. The pig is domesticated throughout New Guinea and, besides being considered an important economic asset, is regarded with considerable reverence. Canoes are used both on rivers and in coastal waters. The simple dugout is probably the original type of water craft, but large outriggers, probably introduced by the Melanesians, are now extensively used in coastal waters. Among the eastern coast peoples double canoes joined by platforms are used, while the Motu carry large loads by joining several canoes together. Voyages of considerable length are made in craft of this sort. They are propelled by paddles, and on the southeast coast by "leg-of-mutton" sails of matting. Oceangoing canoes may be as long as 70 feet and may carry 60 or 70 paddlers. Such large vessels were often used on war expeditions to neighboring islands or coastal districts.

The Papuans as a rule are a warlike people and their almost uniformly hostile attitude toward strangers was a leading factor in delaying exploration of the island for centuries. Their hostility was not confined to strangers, but they were accustomed to carrying on extensive wars or feuds among themselves. The extensive practice of cannibalism and head hunting were corollary adjuncts of warfare, particularly in the eastern half of the island. Cannibalism until recently was rather generally practiced in New Guinea, particularly in the eastern half of the island. Among some groups the practice is restricted by certain rituals and taboos. In the Purari Delta and the Yodda Valley, for example, a man is prohibited from eating the body of a person he himself has killed. Among many tribes of the Fly River district, such as the Bamu and the Goaribari, unrestricted cannibalism is the rule, and human flesh is highly relished purely for its food qualities. Connoisseurs prefer the flesh of women, such cuts as the arms, legs, and breasts being considered special delicacies. The whole body, however, is eaten, generally roasted with sago. Among some of the tribes in which cannibalism is restricted, women are not permitted to partake of human flesh. Material for cannibal feasts is generally furnished by strangers who come into the territory or more typically as a result of raids on enemy tribes. In some cases small tribes were formerly almost exterminated by their stronger neighbors, who looked upon them as a sort of always-available meat market where food could be obtained with some excitement thrown in for good measure.

The heads of enemies or strangers in most Papuan tribes are preserved as trophies, in most cases being elaborately prepared. Sometimes they are dried and painted, while in other localities, as on the Sepik, features in clay are modeled over the skull. The bow, which now constitutes the typical weapon of the Papuan, is made of black palm wood and may be 6 or 7 feet long. Arrows are often elaborately made and are as long as a man (pl. 21). Hunting arrows are usually tipped with bamboo or plain bone points, but fighting arrows are fantastically barbed and usually fitted with a loose head which becomes detached in the wound. The tribes of the central lake plain of Netherlands New Guinea attach scores of bone barbs to a latex smeared over the foreshaft of the arrow. The latex dissolves in the wound and leaves the infectious barbs distributed through it.

Among most Papuan tribes the dead are disposed of by wrapping the body in leaves or a mat and exposing it on a platform near the village. Later the bones are disposed of, and among many tribes the skulls of relatives are preserved in the house. In parts of eastern New Guinea the dead are buried.

Illness and death are commonly supposed to be caused by sorcery or

brought about by ghosts. Hence the sorcerer is an important character in Papuan society. Divination is practiced for the purpose of deciding whether illness in a particular case has been caused by ghosts or sorcery, and appropriate action is taken accordingly.

When a sorcerer wishes to bring about the death of some particular person, as a rule he employs some form of sympathetic magic. Usually he tries to obtain some part of the person such as a bit of hair, fingernails, etc., which gives him a connection with his proposed victim.

Fear of the spirits of the dead and a sort of ancestor worship is characteristic of most Papuan tribes. It is in connection with these ceremonies that many of the elaborate masked dances are held. The masked dancers are supposed to represent spirits or supernatural beings who are paying a visit to the worshipers. Very often the use of masked figures is connected with the men's secret societies which constitute an important feature of Papuan social organization. The tribal initiation of boys into these societies forms one of the most basic and widespread of Papuan ceremonies.

While the natural family is the basic social unit in New Guinea, the clan or extended family is probably more fundamental. Under this system relationship terms extend to a much wider group than the immediate family. Both matrilineal and patrilineal clans exist, that is, groups which reckon descent through the mother on the one hand and the father on the other. In general, within the clan, members of the same generation address each other as brothers and sisters. Among some tribes, clans are totemic, that is, they are supposed to be descended from and identified with some animal ancestor. The clan figures in most rituals and in the feasts which accompany such events as marriage, birth, and death.

Competitive and reciprocal exchanges of pigs and other objects of value between persons representing clans are a striking feature of Papuan social life. The object of these competitions is to "break" the individual in whose "honor" the feast is given, as he is obliged by custom to return the compliment even more elaborately. Clan members contribute to the cause of their respective representatives, and great social prestige is acquired by the victor. The loser on the other hand is doomed to disgrace and poverty, and the clans share in the glory or disgrace as the case might be. Reciprocal activities of this same nature are a prominent feature of war and cannibalism. The practice, most typical in eastern New Guinea, extends as far as the Solomons and is possibly of Melanesian origin.

Tobacco is grown and used in most parts of New Guinea. It is smoked in the form of cigarettes, using pandanus leaf for wrappers, and in pipes. In central and southeast New Guinea the Papuans use a large section of bamboo as a mouthpiece to which is attached a hollow holder in which

the tobacco is placed. Smoke is inhaled in huge quantities, sometimes through the nose and sometimes through the mouth. The smoker is sometimes so affected as to become almost unconscious. In other parts of New Guinea, as among the Negritos, small pipes of more conventional pattern are used.

Papuan houses vary in style according to areas throughout the island. In eastern New Guinea the floor plan is generally in the shape of an elongated rectangle. In parts of central New Guinea houses are circular in form with high conical roofs (pl. 20, c), while in western New Guinea and along the coasts they are generally rectangular. Roofs and walls are normally made of palm leaves, although in some districts, as in the central lake plain, matting, bark, or the midribs of sago palm leaves are used (pl. 17, fig. 2). In some places the earth is packed down and used as a floor, in other places the houses are elevated on pilings, with wooden floors. In many districts throughout New Guinea tree houses are built sometimes 50 feet or more above the ground. This is done for purposes of defense and observation (pl. 9, fig. 2). Most spectacular are the men's large clubhouses of the Fly River and other parts of British New Guinea, it being typical of Papuan culture for the men and women to live in separate structures. Some of the men's clubhouses on the Fly and the Papuan Gulf may be as much as 300 feet long and 60 feet high. In them the men perform secret rites, and admission is forbidden to the women.

THE MELANESIANS

The Melanesians, who apparently first reached New Guinea from the north and the archipelagos lying to the east, are the most recent arrivals of the three primary stocks inhabiting the island. They are a tall, frizzly-haired people, darker of skin and lighter of limb than the typical Papuan. They are generally round-headed. The Melanesian languages are related to Malayan, Polynesian, and Micronesian, as contrasted with the much more highly localized Papuan stock. In New Guinea, Melanesian influence is strongest along the north and northeast coast regions and on the southeast coast of British New Guinea. Typical tribes are the Massim on the eastern extremity of New Guinea, who are related to the occupants of the Admiralty and Solomon Islands, and the Roro, Mekeo, Motu, and others along the southeast coast. On the north coast the Bukana, Huon Gulf, and the Jabim are Melanesian. Both Melanesian and Papuan tribes occur side by side along the coast toward the west, the Sepik River being inhabited by several large tribes. The Banaro live on the Keran River, a tributary of the Sepik. In Netherlands New Guinea, Melanesian peoples are found on Geelvink Bay, where their westward distribution stops. The



1. Papuan men with composite stone ax, on upper Rouffaer River.



2. Sago palm houses and men with fish nets along Rouffaer River. Bananas, breadfruit, and pandanus in background.

CENTRAL NETHERLANDS NEW GUINEA



NETHERLANDS NEW GUINEA

a, giant fruit bat from the Mamberamo River; *b*, camp in the central lake plain, upper Rouffaer River, during high water; *c*, dyak carriers along the Nogullo River, Nassau Mountains, west-central region.



NETHERLANDS NEW GUINEA

a, Papuan canoe, Rouffaer River; *b*, Papuan man, upper Rouffaer River, wearing typical boar's tusk forehead ornament and hairpin-shaped nose ornament; *c*, travel along the Nogullo River, Nassau Mountains; *d*, Nogullo Negritos from the Nassau Mountains, showing woven body armor.

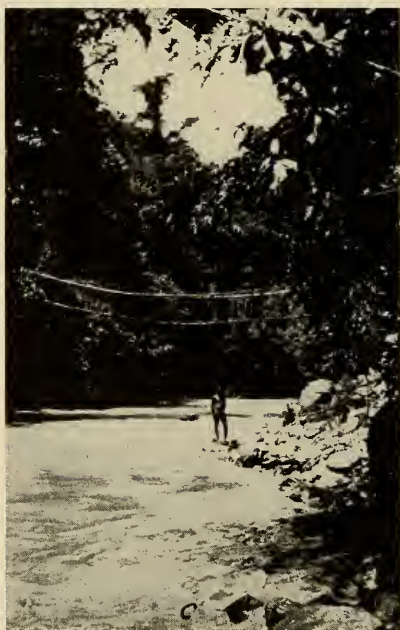


IN THE VAN REES MOUNTAINS. NETHERLANDS NEW GUINEA

a, Papuan men from the Mamberamo River, showing admixture of Melanesian and Papuan types; *b*, women and girls wearing bark loincloths; *c*, men's club-house.



MEN FROM THE VAN REES MOUNTAINS, NETHERLANDS NEW GUINEA
Typical ornaments, weapons, and body armor made from braided palm fiber.



IN THE NASSAU MOUNTAINS, NETHERLANDS NEW GUINEA

a and *b*, Negrito men and women, showing comparative stature; *c*, Negrito rattan suspension bridge; *d*, Negrito man with bow and arrows.



1. Felling a tree.

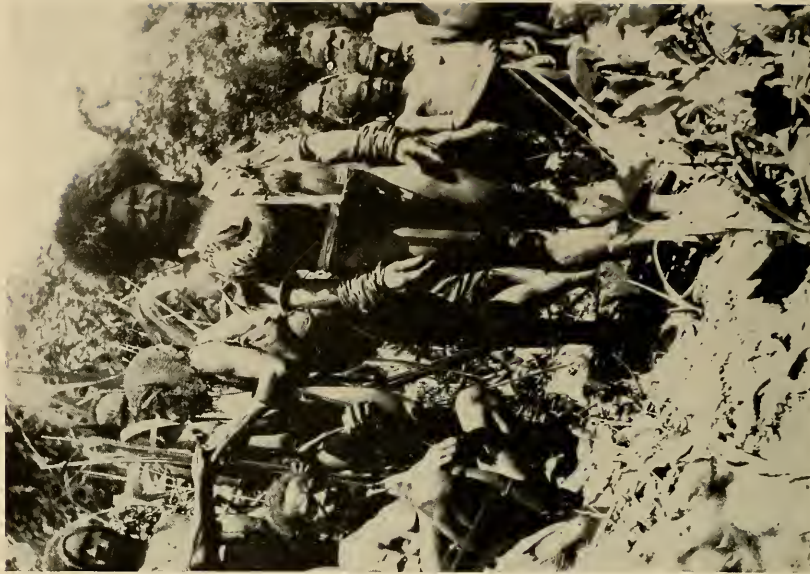


2. Splitting wood.

NOGULLO NEGRITOS OF THE NASSAU MOUNTAINS,
SHOWING USE OF THE STONE AX



1. Nogullo with stone ax.



2. Man wearing headress of cassowary feathers, net bag ornamented with boar's tusks, and wristlets of twisted rattan.



1. Ceremonial pig killing.



2. Men wearing various types of headdress.

NEGRITOS OF THE NASSAU MOUNTAINS



NEGritos OF THE NASSAU MOUNTAINS

a, seated group; *b*, group showing one individual of Papuan type;
c, men standing in a taro patch.



NEGRITOS OF THE NASSAU MOUNTAINS, NOGULLO RIVER

a, man wearing net bag; *b*, Australoid type; *c*, bearded man standing in taro patch wearing wig and net head covering; *d*, pygmy man standing beside a European.



NEGritos OF THE NASSAU MOUNTAINS

a, women and girl wearing typical pandanus leaf skirts; *b*, woman standing by native house; *c*, woman cooking by the hot-rock method.

Melanesians were the bearers of a much more advanced culture than that which existed in New Guinea prior to their arrival, and their cultural influence is much more far-reaching than their physical type or language.

As one travels from east to west in New Guinea, the richness of native culture gradually diminishes until in Netherlands New Guinea social organization, art, and material culture become very simple and relatively colorless. It is possible that the bow and arrow was introduced by the Melanesians, as were pigs and the custom of chewing betel nut. All these are traits which have spread over the entire island.

The practice of making elaborate wood carvings is also Melanesian and is well exemplified by the work done along the Sepik River. Tattooing is another custom of Melanesian origin. Among some tribes its use is confined to women and is very elaborate, as among the Massim and Waima. Tattooing of a girl usually begins when she is between 5 and 10 years of age and continues from time to time over a period of several years until she is of marriageable age, at which time the legs and all of the upper part of the body are covered with elaborate geometrical designs.

Among some groups such as the Koita of the Papuan Gulf, men who are homicides are entitled to wear special tattooed decorations on the chest, arms, and back. The designs differ so as to indicate whether his victim was a man, woman, or child.

Almost all the Melanesian peoples of New Guinea manufacture pottery, a custom which has not been rapidly adopted by the Papuan tribes.

The use of drums and huge slit wooden gongs is another Melanesian practice, which is characteristic also of the Melanesian peoples from the Admiralty Islands to the Solomons. With these instruments goes the use of sacred flutes of bamboo, instruments which are carefully kept from the sight of women, as is the wooden "whizzer" or bullroarer. The latter is probably of Papuan origin.

The strong place of the clan in social organization is probably another widespread New Guinea trait primarily of Melanesian origin. The ceremony of tribal initiation of boys into male secret societies and the institution of men's clubhouses—features so prominent in many parts of New Guinea—are also Melanesian importations. The elaborate masked dances connected with these organizations are also typically Melanesian.

The Melanesians are above all a seafaring people, a development, no doubt, of their insular existence. They brought with them to New Guinea the large seagoing outrigger and composite canoes which contributed so much to their territorial expansion. As corollaries to this they have been ardent traders and fishermen. In short, the Melanesian peoples of New Guinea, although relatively few in number and comparative newcomers,

have been the group which has given to New Guinea most of its color and barbaric splendor.

In concluding the discussion of the native elements making up the population of New Guinea, a few words should be said regarding the Australians. Undoubtedly a small element of Australian peoples reached New Guinea at an early date. The crossing by way of the Torres Strait islands would be a simple matter, and it is surprising that Australian influences are not even more pronounced. As has been pointed out, there are linguistic connections between Papuan dialects and those of northern Australia. Australian physical resemblances can be seen in some of the southern Papuan tribes and among the Negrito groups of the Nassau Mountains. In this latter region particularly are many cultural practices which are reminiscent of the Australian tribes.

CONCLUSION

New Guinea, an area of great size and vast potential resources, is probably destined to play an important role in the civilized world in the not distant future. Its strategic location as a buffer to Australia was scarcely recognized until modern mobile warfare projected it into relief.

As an indirect result of the present international situation New Guinea's long period as a kind of natural history museum and living exhibit of stone-age social phenomena is probably about at an end. With colonization, involving the introduction of modern sanitation methods and malaria control, its possibilities are almost unlimited. When this comes about, it is to be hoped that mistakes of the past will be taken into consideration in dealing with the human element. New Guinea's three-quarters of a million natives will afford an almost unspoiled Neolithic medium for the anthropologists, sociologists, and political scientists dealing with the acculturation problem.

SELECTED BIBLIOGRAPHY

BRITISH NEW GUINEA

BEAVER, WILFRED N.

1920. *Unexplored New Guinea*. London.

HOLMES, J. H.

1924. *In primitive New Guinea*. London.

LANDTMAN, GUNNAR.

1927. *The Kiwai Papuans of British New Guinea*. London.

LEAHY, MICHAEL J., and CRAIN, MAURICE.

1937. *The land that time forgot*. New York and London.

MONCKTON, C. A. W.

1934. *New Guinea recollections*. London.

NEWTON, HENRY.

1914. *In far New Guinea*. London.

SELIGMANN, C. G.

1910. *The Melanesians of British New Guinea*. Cambridge.

WILLIAMS, F. E.

1928. *Orokaiva magic*. London.

1930. *Orokaiva society*. London.

1940. *Drama of Orokolo*. London.

WILLIAMSON, R. W.

1912. *The Mafulu mountain people of British New Guinea*. London.

NETHERLANDS NEW GUINEA

RAWLING, C. G.

1913. *The land of the New Guinea pygmies*. London.

WIRZ, P.

?. *Die Marind-Anim von Hollandisch Sud Neu Guinea*. 4 vols. Frankfurt.

WOLLASTON, A. F. R.

1912. *Pygmies and Papuans*. New York.

Verslag van de Militaire Exploratie van Nederlandsch-Nieuw-Guinee 1907-1915.
Weltevreden, 1920.

Nova Guinea. Resultats de l'expédition scientifique Néerlandaise a la Nouvelle-Guinée en 1903, 1907, 1912 et 1913. 16 vols. E. J. Brill, Leiden.

